## REMARKS

Claims 1-10 are all the claims currently pending in this Application.

**Claim Amendments**

With this Amendment, claim 1 is amended to include the following inequality:

$$\Delta T_{max} \leq \frac{0.05 \cdot c \cdot DMD_{min}}{\beta + \alpha \cdot n}$$

Claims 2 and 3 are amended for clarity and in accordance with the amendment to claim 1.

The inequality of claim 1 is fully supported in the originally-filed specification, and can be derived from formulas (1), (2), (5), and (6) of the originally-filed specification as follows:

•Formula (1) can be re-written as formula (I):

$$(1)..\ L' = L + \Delta L = L + \alpha \cdot L \cdot \Delta T \rightarrow (I)..\ \Delta L = \alpha \cdot L \cdot \Delta T$$

•Formula (2) can be rewritten as formula (II):

$$(2)..\ n' = n + \Delta n = n + \beta \cdot \Delta T \rightarrow (II)..\ \Delta n = \beta \cdot \Delta T$$

•Formula (5) can be combined with formulas (I) and (II) to achieve formula (III):

$$(5)..\ \Delta t = \frac{1}{c}\{L \cdot \Delta n + n \cdot \Delta L\} \rightarrow ..\ \Delta t = \frac{1}{c}\{L \cdot \beta \cdot \Delta T + n \cdot \alpha \cdot L \cdot \Delta T\} \rightarrow$$

$$(III)..\ \Delta t = \frac{L \cdot \Delta T}{c}\{\beta + n \cdot \alpha\}$$

•Formula (6) can be combined with formula (III) to achieve the inequality of claim 1:

$$(6).. \frac{|\Delta t|}{DMD_{\min} \cdot L} \le 0.05 \rightarrow .. \left(\frac{1}{DMD_{\min} \cdot L}\right)\left|\left(\frac{L \cdot \Delta T}{c}\right)(\beta + n \cdot \alpha)\right| \le 0.05 \rightarrow$$

$$\Delta T_{\max} \le \frac{0.05 \cdot c \cdot DMD_{\min}}{\beta + \alpha \cdot n}$$

Therefore, Applicants submit that the amendments to the claims are fully supported in the originally-filed specification and respectfully request entry of the amendments.

**Prior Art**

Claims 1-10 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Ohira (U.S. Publication 2003/0228103) in view of Pepeljugosi ("15.6-Gb/s Transmission over 1km of next generation multimode fiber", May 2002, Photonics Technology Letters, IEEE, Vol. 14, Issue 5, pages 717-719). Applicants respectfully traverse the rejection at least because no combination of the cited references teaches or suggests each of the features recited in independent claim 1.

As described in the specification, exemplary embodiments of the claimed invention were made in view of a problem that a DMD measurement could not be accurately carried out because the refractive index and length of an optical fiber change due to a change in temperature of the optical fiber during measurement. Thus, according to embodiments of the claimed invention, there is a method of measuring DMD in which a temperature of the fiber is controlled such that the inequality of claim 1 is satisfied: $\Delta T_{\max} \le \frac{0.05 \cdot c \cdot DMD_{\min}}{\beta + \alpha \cdot n}$

This enables higher precision measurements of the DMD of the fiber.

Ohira describes an invention developed in view of a problem that power consumption is disadvantageously increased when a temperature distribution, based on a same temperature distribution function, is applied to a whole chirped grating. To solve this problem, Ohira describes a method of applying heat to the chirped grating where the amount of heat supplied is based on a temperature distribution function which shows significant difference depending on a distance from one end of the chirped grating.

However, Ohira fails to teach or suggest any method, as recited in claim 1, of measuring a DMD by controlling a temperature of the optical fiber such that the inequality of claim 1 is satisfied during the measurement time.

Further, Pepeljugosi fails to remedy this deficiency of Ohira.

Therefore, Applicants submit that claim 1 is patentable over the cited references because the cited references fail to teach or suggest each feature of the claim as recited. Claims 2-10 are patentable at least by virtue of their dependencies.

Applicants respectfully request that the rejection of claims 1-10 be reconsidered and withdrawn.

**Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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